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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,793	12/10/2003	Christian Jean Tanguy	2003P09451US01;60,426-633	6917

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SIEMENS CORPORATION
INTELLECTUAL PROPERTY LAW DEPARTMENT
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EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/732,793	TANGUY ET AL.	
	Examiner	Art Unit	
	Jason M. Han	2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because no two figures have the references (10) or (16) together, nor is necessary – please consider deleting.

Correction is required. See MPEP § 608.01(b).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: PCB 18 and display component 24 in Figures 2A-2B [Page 5 of the Specification]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "22" [e.g., Page 8, Paragraph 31, Line 3] and "30" [e.g., Page 6, Paragraph 25, Line6] have both been used to designate a channel. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office

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action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "22" has been used to designate both "light housing" [e.g., Page 8, Paragraph 30, Lines 1, 3, 4] and "channel" [e.g., Page 8, Paragraph 31, Line 3]. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claim 7 is objected to because of the following informalities: Grammatical error in line 4 of the claim: "plurality of reflect surfaces" should be rewritten to read "plurality of reflective surfaces". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-5 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Obata (U.S. Patent 6595667).
7. With regards to Claim 1, Obata discloses an instrument cluster including:
- A display including at least one graphical image [Figures 19-20: (52a, 52b)];
 - At least one light source positioned to illuminate at least a portion of said graphical image [Figure 20: (62)];
 - A circuit board [Figure 20: (1)] including a plurality of electronic components [Figure 20: (61, 62); Column 7, Lines 52-58], wherein said light source is supported on the circuit board; and
 - At least one housing [Figure 20: (71)] supported by said circuit board and further including a first wall portion [Figure 20: (702)] with an inclined

extension [Figure 20: (75)] extending over said light source, wherein said inclined extension includes a reflective surface facing said light source [Column 19, Line 50].

8. With regards to Claim 2, Obata discloses the light housing including at least one channel [Figure 20: area defined between (5) and (77)] having a generally flat base portion defining a reflective surface [Figure 20: (77) – the generally flat base portion adjacent to the light emitting diodes (62)].

9. With regards to Claim 3, Obata discloses the channel being defined by a U-shaped cross-section including a pair of sides extending upwardly from said base portion [Figure 20: (77)].

10. With regards to Claim 4, Obata discloses the bottom surface of said base portion [Figure 20: (77) – adjacent to (62)] engaging the circuit board adjacent to the light source.

11. With regards to Claim 5, Obata discloses the light housing having an intermediate portion [Figure 20: (701)] and a second wall portion [Figure 20: (71)] transitioning from said base portion of said channel to said intermediate portion, wherein said intermediate portion is positioned vertically higher relative to said circuit board than said base portion to define a gap [Figure 20: area defined underneath (77)] between said light housing and said circuit board.

12. With regards to Claim 8, Obata discloses the at least one channel including a plurality of channels [Figure 20: areas defined within (74, 75, 77)] each defining a reflective surface.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata (U.S. Patent 6595667).

14. With regards to Claim 6, Obata discloses the claimed invention as cited above, but does not specifically teach the electronic components being mounted to the circuit board directly underneath the intermediate portion within the gap.

However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the electrical components onto the circuit board underneath the intermediate portion within the gap [Figure 20: area below (77)], since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, arranging the electronic components within the area defined above would efficiently utilize the free space, and thus, provide for a more compact device.

15. With regards to Claim 7, Obata discloses the claimed invention as cited above, but does not specifically teach a beveled surface extending from the intermediate portion toward the display.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reflector [Figure 20: (77)] of Obata to

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incorporate a beveled surface, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, a beveled surface would provide for a preferred optical orientation with respect to illumination. Please further note US Patent 6508562 to Venkatram et al. for a reflector having beveled surfaces.

16. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata (U.S. Patent 6595667) as applied to Claim 1 above, and further in view of Angell et al. (U.S. Patent 6520654).

17. With regards to Claim 9, Obata discloses the claimed invention as cited above, but does not specifically teach a white reflective layer applied to display areas that do not have illuminated graphics.

Angell teaches a light-scattering white paint [Figure 7: (48); Column 5, Lines 13-16].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the white reflective layer of Angell onto the display areas of Obata that do not have illuminated graphics in order to evenly distribute the light throughout the dial/display. Such a configuration is commonly known within the art.

18. With regards to Claim 10, Obata in view of Angell discloses the claimed invention as cited above, but does not specifically teach the display including a layer of anisotropic film applied to a surface opposite from the white reflective layer.

However, Angell teaches, "Preferably, the reflective material 70 should have the proper bi-directional reflectance distribution function ("BRDF"). It is, preferable to have a BRDF that is centered within the angular distribution of the light captured within the light-carrying panel 14. Preferably, the BRDF output characteristics should be isotropic, meaning that the material is non-angle specific. However, the reflective material 70 can also be anisotropic, and depend on the angle at which the light hits it [Column 6, Lines 57-65]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the anisotropic reflective material of Angell to the display/dial of Obata in order to provide greater control over the illumination [e.g., angle of reflectance] and evenly distribute the light therein.

19. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata (U.S. Patent 6595667).

20. With regards to Claim 11, Obata discloses an instrument cluster providing:

- A light housing [Figure 7: (71, 74, 75, 78)] supported by a circuit board [Figure 7: (1)];
- A display including at least one graphical image [Figure 7: (52)] with the light housing;
- At least one light source [Figure 7: (61, 62) mounted to illuminate at least a portion of said graphical image; and

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- An extended reflective portion [Figure 7: (74, 75)] of the light housing over the light source, whereby light generated by the light source is reflected off the reflective portion to illuminate the graphical image.

Though Obata does not specifically teach a method, it would have been obvious to one ordinarily skilled in the art to provide a method for illuminating an instrument cluster with aforementioned structure.

21. With regards to Claim 12, Obata provides the light housing including at least one channel [Figure 7: area defined between (5) and (77)] having a generally flat base portion defining a reflective surface [Figure 7: (77) – the generally flat base portion adjacent to the light emitting diodes (62)] that reflects light from said reflective portion.

22. With regards to Claim 13, Obata provides the channel being defined by a U-shaped cross-section including a pair of sides extending upwardly from said base portion [Figure 7: (77)], whereby the bottom surface of said base portion [Figure 7: (77) – adjacent to (62)] mounts the circuit board adjacent to the light source.

23. With regards to Claim 14, Obata discloses the claimed invention as cited above and provides the light housing having an intermediate portion [Figure 7: (7)] extending upwardly from the base portion, whereby the spacing of the intermediate portion apart from the circuit board defines a gap [Figure 20: area defined underneath (77)].

However, Obata does not specifically teach mounting a cluster of control electronic components to the circuit board underneath the intermediate portion within the gap.

However, It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the electrical components onto the circuit

board underneath the intermediate portion within the gap, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japiske*, 86 USPQ 70. In this case, arranging the electronic components within the area defined above would efficiently utilize the free space, and thus, provide for a more compact device.

24. With regards to Claim 15, Obata discloses the claimed invention as cited above, but does not specifically teach providing a beveled portion extending from the intermediate portion toward the display, whereby the reflective portion, channel, intermediate portion, and beveled portion provide multiple reflective surfaces for illuminating the graphical image.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reflector [Figure 20: (77)] of Obata to incorporate a beveled portion, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. c. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. In this case, a beveled surface would provide for a preferred optical orientation with respect to illumination. Please further note US Patent 6508562 to Venkatram et al. for a reflector having beveled surfaces.

25. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Obata (U.S. Patent 6595667) as applied to Claim 11 above, and further in view of Angell et al. (U.S. Patent 6520654).

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26. With regards to Claim 16, Obata discloses the claimed invention as cited above, but does not specifically teach providing a white reflective layer applied to display areas that do not have illuminated graphics.

Angell teaches a light-scattering white paint [Figure 7: (48); Column 5, Lines 13-16].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the white reflective layer of Angell onto the display areas of Obata that do not have illuminated graphics in order to evenly distribute the light throughout the dial/display. Such a configuration is commonly known within the art.

27. With regards to Claim 17, Obata in view of Angell discloses the claimed invention as cited above, but does not specifically teach providing the display with a layer of anisotropic film applied to a surface opposite from the white reflective layer.

However, Angell teaches, "Preferably, the reflective material 70 should have the proper bi-directional reflectance distribution function ("BRDF"). It is, preferable to have a BRDF that is centered within the angular distribution of the light captured within the light-carrying panel 14. Preferably, the BRDF output characteristics should be isotropic, meaning that the material is non-angle specific. However, the reflective material 70 can also be anisotropic, and depend on the angle at which the light hits it [Column 6, Lines 57-65]."

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to incorporate the anisotropic reflective material of Angell to the

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display/dial of Obata in order to provide greater control over the illumination [e.g., angle of reflectance] and evenly distribute the light therein.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 2831453 to Hardesty;

US Patent 3895856 to Bickel;

US Patent 4044708 to Klein;

US Patent 4443835 to Brautigam et al;

US Patent 5047761 to Sell;

US Patent 5703612 to Salmon et al;

US Patent 6302551 to Matumoto;

US Publication 20020135994 to Ikarashi et al;

US Patent 6499852 to Kino et al;

US Patent 6508562 to Venkatram et al;

US Patent 6820990 to Ewers et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (4/4/2005)


Stephen Husar
Primary Examiner